

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of)

PUBLIC UTILITIES COMMISSION)

Instituting a Proceeding to Investigate the)
Implementation of Feed-in Tariffs.)
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**TAWHIRI POWER LLC'S
COMMENTS TO HECO COMPANIES' REPORT ON THE DEVELOPMENT OF
RELIABILITY STANDARDS FOR ITS FEED-IN-TARIFF PROGRAM**

AND

CERTIFICATE OF SERVICE

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TO THE HONORABLE PUBLIC UTILITIES COMMISSION OF THE STATE OF HAWAII:

TAWHIRI POWER LLC ("TPL") respectfully submits to the Hawaii Public Utilities Commission ("Commission") its comments to the report developed by HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), and MAUI ELECTRIC COMPANY, LIMITED ("MECO") (collectively the "HECO Companies") regarding the development of reliability standards for the HECO Companies' Feed-In-Tariff program filed herein on February 8, 2010 ("Report"). Two (2) of TPL's Consultants and Expert Witnesses, Dr. Mohamed El-Gasseir and Mr. Harrison K. Clark, have provided substantial portions of the comments set forth hereinafter.

I. Introduction.

The Report outlines the numerous issues and concerns to be addressed by the HECO Companies in order to achieve even modest increases in renewable energy development on the islands of Maui and Hawaii. It also briefly describes the technical studies required to be performed

to formulate solutions over the near term to mitigate the problematic characteristics of renewable generating plants. The Report, however, fails to provide any insight – even from a utility perspective – concerning the methodology to attain cost-effective renewable energy expansion without degrading system reliability for the foreseeable future. Instead, the HECO Companies propose the establishment of a Reliability Standards Working Group (“RSWG”). Although TPL agrees with this concept, the management and funding of the RSWG should be devoid of any control from the HECO Companies. If it is, the RSWG will not achieve its intended goals because such a traditional approach whereby the utility maps out the course to be debated and tweaked into a stipulated settlement will be ineffective for Maui and the Big Island. Presently, curtailing of independent power producers (“IPPs”) is a common dysfunctional practice on Maui and the island of Hawaii. Therefore, merely “tweaking” incremental utility solutions would be unsuccessful in integrating robust renewable energy production into the HECO Companies’ grids and prejudicial to existing and future investors of IPPs. Prolonged market uncertainties associated with the RSWG should it be subject to the influence of the HECO Companies will lead to capital flight from the State of Hawaii. The investors electing to remain will be compelled to demand greater compensation for their renewable production to account for the increased risk of revenue erosion (because of curtailment). In the final analysis, the ratepayers will be the ultimate victims under this scenario.

II. Necessity For Long-Term Solutions.

The longer-term goal for the State of Hawaii is increased renewable energy, potentially to a 100% displacement of fossil-fired generation, but certainly substantially more than the current penetration levels. Renewable generation benchmarks exceeding 50% and approaching or reaching 100% are technically feasible. However, renewable market shares comparable to the goals of the Hawaii Clean Energy Initiative (“HCEI”) will greatly exceed existing penetrations and require focused efforts on new energy generation and distribution paradigms, both technically and institutionally. The candidate paradigms will be defined by the nature and scope of the required long-term changes to the island systems and how those modifications are planned, financed and implemented. These are lofty goals, but certainly achievable.

Solutions to mitigate the impact of FiT renewables and distributed generation

(“DG”) into the island grids should not focus simply on reaching the next five percent (5.0%) penetration. However, during the interim any incremental solution would be acceptable only if the following conditions are met:

- Existing generators will be protected against any future revenue erosion; and
- This incremental solution is explicitly identified as only a first step in a well-defined long term plan targeting up to 100% renewable futures. As with any undertaking of this magnitude, the long term studies required to identify the strategies to meet these objectives must generate plans providing credible economic and regulatory pathways which ensure cost-effective transformation to the desired future, rather than near-term solutions destined to create unnecessary roadblocks to essential future system overhauls.

III. Signs of Thinking Inside A Utility Box.

TPL agrees with the HECO Companies’ view that the systems on the Big Island and Maui are nearing their breaking points. In fact, it may be readily accepted that every megawatt (“MW”) of new renewable energy development will result in a direct reduction of existing generations. Despite this unacceptable consequence, the Report clearly reflects a mindset either unwilling or incapable of innovative thought. Rather, the HECO Companies remain committed to the archaic thinking and acting of a conventional utility; “thinking inside the box.” Although this is neither surprising nor unexpected, examples of the shortcomings attendant with this mindset are useful in critiquing the Report:

- The Report avers to the extent renewable generation possesses the characteristics similar to HELCO's conventional generation it may displace HELCO's fossil fuel power. In other words, the HECO Companies desire FiT resources to be controlled and operated as if they were the utilities’ own power plants. This questionable position carries two (2) fatal flaws. First, enabling FiT technologies to behave similar to a utility generator will be very costly because DG facilities tend to be much smaller than utility facilities (causing significant diseconomy of scale). Second, limiting the focus to requiring the modification of DG technologies to comport with the wishes of the utility operators will

impede the implementation of improved concepts for achieving higher renewable penetration levels.

- A more obvious and striking deficiency in the Report is the failure to mention the inherent conflict of interest with the RSWG proposal. The HECO Companies own conventional generation plants and a fleet of DG units. These assets are operating in direct competition with IPPs and future FiT developers. Meanwhile, the utilities seek to maintain their control over the design and enforcement of reliability standards for their grids, and the control and dispatch of generation from all available resources. In other words, in the court of renewable energy development, the prosecutor is also the judge and he has a material interest in outcome of the case. Are the proposed reliability standards designed to promote orderly and intensive development of renewable energy generation, or are designed for the unstated purpose of maintaining the HECO Companies dominance in the power generation sector? The HECO Companies must squarely address this issue, and propose the means to solve that conflict of interest problem in order to convince the parties and the Commission their proposal is superior to other available solutions.
- As in prior occasions, the HECO Companies have clearly stated the RSWG process “should be organized and facilitated separately from the Companies’ Clean Energy Scenarios Planning Process.”¹ This unwavering demand to separate the planning of resources competing to serve a limited market is disconcerting. On the one hand, the purpose may be that it merely reflects another utility tendency to isolate twin issues into separate compartments. Otherwise, such action cannot justified when one of the main forces behind the proposed moratorium on interconnecting FiT generation on Maui and the Big Island is the potential increase in the curtailment of existing third party generation delivering energy at the transmission level. TPL is of the opinion separating these two planning processes is nonsensical. In fact, TPL advocates herein for a consolidation of all inter-related dockets into a single proceeding. This reasoned approach saves time and money, and is more likely to produce a consistent set of results,

¹HECO Companies, “Proposed FiT Reliability Standards for the Hawaii Electric Companies”, Exhibit 1, Page 5, February 8, 2010.

policies and regulations. The Big Island and Maui systems approximate 200 MWs. At that level of generation, the rhetorical question is “how much does it take to conduct a comprehensive and thorough planning investigation through a single fast-track docket?”

IV. Ignored Solutions.

Central energy storage at a single location, and eventually for reliability purposes, at multiple few sites have not been discussed in spite of its obviousness benefits. Instead, the Report envisions individual FiT plants behaving as conventional generation facilities.² This proposal implies storing energy in close proximity to each FiT location, or operating at low capacity factors; both exceedingly expensive propositions surely inhibiting the growth of renewable production. Perhaps the unstated intention is subtly encourage developers to withdraw from the FIT proceeding upon realizing the futility of participating in a prolonged planning process unduly influenced by the HECO Companies.

The central storage concept will also permit the variability of individual investments of renewable energy technologies to be, easily and most economically, integrated into the system at the desirable pace of development. Furthermore, central energy storage will provide the grid services geothermal plants presently supply, but only with considerable effort and at needless cost of foregone energy production. Larger scale storage also achieves economies of scale and optimal system-wide dispatch. At the same time, it provides more effective peak shaving and shaping of load during light load periods, attributes sorely needed on both the Big Island and Maui.

There are other opportunities to facilitate a transition to maximum renewables implementation levels. However, such opportunities may only be revealed in a planning approach focused on both short--term and the long-term goals. For instance, planners would identify and orchestrate optimum solutions which include components on the electric power grid and its central controls, and certain capabilities of various renewable energy plants. These opportunities will not be limited to energy storage, but also involve issues ranging from controlling system response to generation outages, and line trips to rapid restoration from

² For example, renewables such as photovoltaic, wind, and run-of-river hydro, may only provide the characteristics of conventional generation if they were coupled with sufficient amounts of energy storage, or restrained from producing large amounts of energy.

blackouts.

The transition to increased renewables levels will be further enhanced when generators are compensated for the curtailment of their energy production. Doing so eliminates the constraints of contract priorities which overly limits electric system planning and operation. Removing these constraints will result in higher reliability and transmission savings because, for example, curtailment would only be instituted to accommodate transmission contingencies and maintenance. Additionally, operating costs will be lowered by reason of the utilities' ability to dispatch the most effective plants for a given set of operating conditions when excess renewable energy is available.

Near-term solutions to accomplish a five percent (5.0 %) increase in renewables are readily available. However, caution must be taken to avoid exposing ratepayers to higher costs when transitioning to higher renewables penetration.³ Some infrastructure essential for future renewable energy targets may require substantial upfront costs and significant construction time. Nonetheless, when evaluating public policy objectives against such investments, these strategies may represent the least-cost solution. Prudent planning requires consideration of all approaches on every front, including technical, economical, institutional and financial issues. Long-term solutions should be defined and developed now, and not left to some future myopic ratepayer studies focused on near-term renewable growth.

V. The Need for and Requirements of an Independent Study.

The Report further failed to provide details for the optimal methodology to integrate renewable generation resources into the islands grids. Perhaps this flaw reflects the traditional utility approach to diagnosing and resolving system planning problems. Omitting non-utility alternatives is to be expected due to the pervasive and over-riding conflict of interest associated with the RSWG, and because such solutions are not obvious from a conventional utility point of view. Likewise, the broader system-wide aspects of planning would not be obvious to a photovoltaic or wind or geothermal plant designer who is not familiar with the intricacies and challenges of operating an electric power grid. The only effective and logical means to properly evaluate the issues and identify the required solutions is to commission a

³ Relative to what such costs would have been if planning were to account for long-term objectives from the outset.

study effort that: (i) is funded and conducted independently from any and all parties; (ii) brings together utility grid expertise and renewable plant design expertise; and (iii) is guided by experts with both broad and specific knowledge and experience in engineering, economics, finance, and institutional and regulatory issues.

The above proposed study effort should consider:

1. All existing utility system generation, transmission and distribution components including facilities, software and other aspects;
2. Existing renewable plant designs, equipments, performance and capabilities, as well as contractual obligations;
3. Future renewables development and technology opportunities;
4. Potential revenue impacts on prior renewable energy projects caused by new entrants (for both existing and future prior investments);
5. Potential energy storage alternatives in conjunction with present and future renewable generation assets;
6. A broad spectrum of renewable energy development targets and implementation schedules;
7. The relevant scenarios of electricity and energy demand growth rates, and the associated economic indicators for each island system;
8. The possible financing options for each renewable energy path under consideration; and
9. The business and regulatory models that may be utilized and the underlying institutional infrastructures that would be required for each development path.

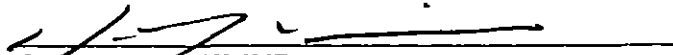
A properly designed and executed study would hypothesize different paths to future high renewable penetration levels while meeting reliability of service criteria in concert with established industry practices. It would construct development models incorporating the technical, economic, business and regulatory aspects of each alternative to test its economic and institutional viability. The result would be the optimal path to high renewable levels that achieves all of the electric power grid reliability needs outlined in the Report and others that are yet to be covered.

VI. Conclusion

In closing, TPL emphasizes that the scope outlined for a proper planning study in these and prior comments is the proper response to the questions that were raised by the Commission's consultant, the National Regulatory Research Institute ("NRRI") on FiT design issues at the onset of these proceedings. The issues that were identified by the FiT Hearing Moderator and each FiT party cannot be considered in isolation of each other and will not be addressed by an inside-the-box planning process. Moreover, it would futile to study them in a sequential manner even if the interconnectivity of the issues is recognized. A fragmented, piecemeal short-term approach which is not independently conceived and managed is a unconscionable waste of ratepayers' time and money.

Respectfully submitted.

DATED: Honolulu, Hawaii, March 23, 2010.


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The foregoing Opening Statement Of Position was served on the date of filing by hand delivery or electronically transmitted to each such Party.

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